CONTENTS VOL. 111, 1989

Research Papers

Potential evaporation and "The complementary relationship"
J.E. Nash (Galway, Ireland) 1
An examination of the concept of potential evaporation
R.J. Granger (Saskatoon, Sask., Canada) 9
Evaporation from natural nonsaturated surfaces
R.J. Granger and D.M. Gray (Saskatoon, Sask., Canada) 21
A complementary relationship approach for evaporation from nonsaturated surfaces
R.J. Granger (Saskatoon, Sask., Canada) 31
One-dimensional flow over a plane: Criteria for kinematic wave modelling
C.P. Pearson (Christchurch, New Zealand) 39
Direct and boundary-only solutions of multilayer aquifer systems, Part A. Steady-state solution
M. Zakikhani and M.M. Aral (Atlanta, Ga., U.S.A.) 49
Direct and boundary-only solutions of multilayer aquifer systems, Part B. Unsteady-state solution
M. Zakikhani and M.M. Aral (Atlanta, Ga., U.S.A.) 69
Sediment concentration versus water discharge during single hydrologic events in rivers
G.P. Williams (Denver, Colo., U.S.A.) 89
A streamflow model using physically-based instantaneous unit hydrographs
A.P. Georgakakos and J.C. Kabouris (Atlanta, Ga., U.S.A.) 107
Diffusion and consumption of methane in an unsaturated zone in north-central Illinois, U.S.A.
R.G. Striegl (Denver, Colo., U.S.A.) and A.L. Ishii (Urbana, Ill., U.S.A.) 133
An optimization model for unconfined stratified aquifer systems
U. Lall (Logan, Utah, U.S.A.) and M.D. Santini (Salt Lake City, Utah, U.S.A.) 145
Surface geoelectrics for the study of groundwater pollution — Survey design
O. Mazac (Barrandov, Czechoslovakia), I. Landa (Holesovice, Czechoslovakia) and W.E. Kelly (Lincoln, Nebr., U.S.A.) 163
Optimal pumping policy and groundwater balance for the Blue Lake aquifer, California, involving nonlinear groundwater hydraulics
A.K. Rastogi (Bombay, India) 177
Spatial variability of groundwater recharge in a semiarid region
P.G. Cook, G.R. Walker and I.D. Jolly (Glen Osmond, S.A., Australia) 195
Integral method solution for diffusion into a spherical block
R.W. Zimmerman and G.S. Bodvarsson (Berkeley, Calif., U.S.A.) 213
Groundwater recharge processes in sedimentary structures of the Czech Cretaceous basin
J. Balek and M. Bursík (Prague, Czechoslovakia) 225
The distributed Muskingum model
W.G. Strupczewski, J.J. Napiorkowski (Warsaw, Poland) and J.C.I. Dooge (Dublin, Ireland) 235
Use of time series analysis to detect climatic change
Kite (Saskatoon, Sask., Canada) 259
Rainfall interception by bracken litter — Relationship between biomass, storage and drainage rate
J.I. Pitman (London, U.K.) 281

Potential use of the deep aquifers in the Negev Desert, Israel — A mathematical model and its numerical solution
R. Nativ, Y. Bachmat and A. Dax (Jerusalem, Israel) 293
An approximate analysis of surface runoff model uncertainty
T.V. Hromadka II (Fullerton, Calif., U.S.A.) and R.H. McCuen (College Park, Md., U.S.A.). 321
An operational GLS model for hydrologic regression
G.D. Tasker (Reston, Va., U.S.A.) and J.R. Stedinger (Ithaca, N.Y., U.S.A.). 361
Unit hydrograph stability and linear algebra
J.C.I. Dooge and M. Bruen (Dublin, Ireland) 377

Short Note

Simultaneous water and solute movement through an unsaturated soil following an increase in recharge
I.D. Jolly, P.G. Cook, G.B. Allison and M.W. Hughes (Glen Osmond, S.A., Australia 391

Book Reviews

Precipitation: Process and Analysis by G. Sumner
J. Dessens 397
Groundwater and Mineral Resources of Nigeria by C.O. Ofoegbu
E. Custodio. 398

Announcements 401